No. 200200108

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

South Dakota Agricultural Experiment Station

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE , OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. IN THE UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS A CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS SPECIFIED BY THE OWNER OF TH... 84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

WHEAT, COMMON

'Walworth'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this sixteenth day of September, in the year two thousand two.

Attest:

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

...Agriculture

REPRODUCE LOCALLY. *Include form number and date on all reproductions* — Form Approved - OMB No. 0581-0055

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF OWNER	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME	3. VARIETY NAME
SOUTH DAKOTA AGRICULTURAL EXPERIMENT STATION	SD3348	WALWORTH

4. ADDRESS *(Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)*	5. TELEPHONE *(Include area code)*	FOR OFFICIAL USE ONLY
SOUTH DAKOTA STATE UNIVERSITY AG HALL 129 BROOKINGS, SD 57007	605-688-4149	PVPO NUMBER 200200108
	6. FAX *(Include area code)* 605-688-6065	FILING DATE Feb. 26, 2002

7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION *(corporation, partnership, association, etc.)*	8. IF INCORPORATED, GIVE STATE OF INCORPORATION	9. DATE OF INCORPORATION
AGRICULTURAL EXPERIMENT STATION		

10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. *(First person listed will receive all papers)*

DR. KEVIN KEPHART, DIRECTOR
SD AG. EXP. STATION, BOX 2207
SDSU
BROOKINGS, SD 57007

RAVINDRA DEVKOTA, INTERIM S. WHEAT BREEDER
PLANT SCIENCE DEPT.
NPB 0256, SDSU
BROOKINGS, SD 57007

RECEIVED STAMP

FILING AND EXAMINATION FEES:
$ 2705.00
DATE 2/26/2002

CERTIFICATION FEE:
$ 320.00
DATE 6/11/02

11. TELEPHONE *(Include area code)*	12. FAX *(Include area code)*	13. E-MAIL	14. CROP KIND *(Common Name)*
605-688-4769	605-688-4452	ravindra-devkota@sdstate.edu	HARD RED SPRING WHEAT

15. GENUS AND SPECIES NAME OF CROP	16. FAMILY NAME *(Botanical)*	17. IS THE VARIETY A FIRST GENERATION HYBRID?
TRITICUM AESTIVUM L.	GRAMINEAE	☐ YES ☒ NO

18. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse)

- a. ☒ Exhibit A. Origin and Breeding History of the Variety
- b. ☒ Exhibit B. Statement of Distinctness
- c. ☒ Exhibit C. Objective Description of Variety
- d. ☒ Exhibit D. Additional Description of the Variety *(Optional)*
- e. ☒ Exhibit E. Statement of the Basis of the Owner's Ownership
- f. ☒ Voucher Sample *(2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository)*
- g. ☒ Filing and Examination Fee ($2,705), made payable to "Treasurer of the United States" *(Mail to the Plant Variety Protection Office)*

19. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? *See Section 83(a) of the Plant Variety Protection Act)*
☒ YES *(If "yes", answer items 20 and 21 below)* ☐ NO *(If "no", go to item 22)*

20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF CLASSES? ☐ YES ☒ NO
IF YES, WHICH CLASSES? ☐ FOUNDATION ☐ REGISTERED ☐ CERTIFIED

21. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? ☐ YES ☒ NO
IF YES, SPECIFY THE NUMBER 1,2,3, *etc.* ☐ FOUNDATION ☐ REGISTERED ☐ CERTIFIED
(If additional explanation is necessary, please use the space indicated on the reverse.)

22. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES?
☒ YES MARCH 1, 2001 USA ☐ NO
IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. *(Please use space indicated on reverse.)*

23. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT *(PLANT BREEDER'S RIGHT OR PATENT)*?
☐ YES ☒ NO
IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. *(Please use space indicated on reverse.)*

24. The owners declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate.

The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.

Owner(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF OWNER	SIGNATURE OF OWNER
NAME *(Please print or type)* DR. KEVIN KEPHART	NAME *(Please print or type)*
CAPACITY OR TITLE DIRECTOR, SDAES	DATE 2-13-01
CAPACITY OR TITLE	DATE

S&T-470 (04-01) designed by the Plant Variety Protection Office with WordPerfect 6.0a. Replaces STD-470 (02-99) which is obsolete. *(See reverse for instructions and information collection burden statement)*

INSTRUCTIONS

GENERAL: To be effectively filed with the Plant Variety Protection Office (PVPO), **ALL** of the following items must be received in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E; (3) for a seed reproduced variety at least 2,500 viable untreated seeds, for a hybrid variety at least 2,500 untreated seeds of each line necessary to reproduce the variety, or for tuber reproduced varieties verification that a viable *(in the sense that it will reproduce an entire plant)* tissue culture will be deposited and maintained in an approved public repository; (4) check drawn on a U.S. bank for $2,705 ($320 filing fee and $2,385 examination fee), payable to "Treasurer of the United States" *(See Section 97.6 of the Regulations and Rules of Practice.)* Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfiled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 500, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. Retain one copy for your files. All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. **DO NOT** use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of $320 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

200200108

Plant Variety Protection Office
Telephone: (301) 504-5518
FAX: (301) 504-5291
Homepage: http://www.ams.usda.gov/science/pvpo/pvp.htm

ITEM

18a. Give:
(1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method;
(2) the details of subsequent stages of selection and multiplication;
(3) evidence of uniformity and stability; and
(4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified

18b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:

(1) identify these varieties and state all differences objectively;
(2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences; and
(3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.

18c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.

18d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, *etc.*

18e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.

19. If "Yes" is specified *(seed of this variety be sold by variety name only, as a class of certified seed)*, the applicant **MAY NOT** reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. *(See Regulations and Rules of Practice, Section 97.103).*

22. *See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.*

23. *See Section 55 of the Act for instructions on claiming the benefit of an earlier filing date.*

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21. CONTINUED FROM FRONT *(Please provide a statement as to the limitation and sequence of generations that may be certified.)*

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22. CONTINUED FROM FRONT *(Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)*

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23. CONTINUED FROM FRONT *(Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)*

NOTES: It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. There is no charge for filing a change of address. The fee for filing a change of ownership or assignment or any modification of owner's name is specified in Section 97.175 of the regulations. *(See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)*

To avoid conflict with other variety names in use, the applicant must check the appropriate recognized authority. For example, for agricultural and vegetable crops, contact: Seed Branch, AMS, USDA, Room 213, Building 306, Beltsville Agricultural Research Center--East, Beltsville, MD 20705. Telephone: (301) 504-8089. http://www.ams.usda.gov/lsg/seed/ls-sd.htm

S&T-470 (04-01) designed by the Plant Variety Protection Office with WordPerfect 6.0a. Replaces STD-470 (02-99) which is obsolete.

EXHIBIT A.
Walworth (SD3348)
Origin and Breeding History of the Variety

Walworth is an F_4 derived line from the cross 'SD3116/Oxen' made at Brookings, South Dakota in 1990-91. The pedigree of SD3116 is Shield/Butte 86. The F_1 plants were grown at Yuma, Arizona during the winter (1991-1992). Individual F_2 plant selections were made at Brookings, South Dakota in 1993 and were grown at Yuma, Arizona the following winter (1993-94) as plant rows. The plant rows at Yuma were harvested as rows and used to plant $F_{2:4}$ yield trials and a space planted nursery at Brookings in 1994. Based on data collected from the yield trials, individual plants were selected within the selected populations. Populations were selected based on grain yield, grain volume weight, and bread-making characteristics and individual plants were visually selected for resistance to prevalent foliar pathogens (viz. leaf rust and stem rust). Plant rows were grown in Yuma during the winter (1994-95) and $F_{4:6}$ yield trials were conducted at Brookings in 1995. Based on the yield performance and the disease resistance, it was promoted to first year replicated yield trial in 1996 with an experimental designation of SD3348. Seed increase was conducted by the South Dakota Spring Wheat Breeding Program from 1996 through 1999. Breeders' seed was produced in 1999 and Foundation seed was produced in 2000.

Walworth was tested by the South Dakota Spring Wheat Breeding Program from 1997 through 2000 and in Crop Performance Trial (CPT) and the Uniform Regional Spring Wheat Nursery from 1998 through 2000. It was tested by the Wheat Quality Council (WQC) in 2000.

Walworth has been uniform and stable for all morphological characters during the past four generations of selfing and increase. A tall variant (5-10") was identified at a frequency of 0.056% in 1999 breeder seed and 1997 foundation seed field. Up to 0.2% variant plants may be encountered in subsequent generations.

EXHIBIT B.
Walworth (SD3348)
Statement of Distinctness

Walworth is most similar to the hard red spring wheat cultivars 'Oxen' and 'Russ', but differs in the following characteristics:

Grain Yield: On the average, Walworth has 2 bu/a higher grain yield than Oxen, but similar to Russ (Table 1a).
Plant Height: On the average, Walworth is 2.5 centimeters taller than Oxen and 1.5 centimeters shorter than Russ (Table 1b).
Test Weight: On the average, Walworth has one lb/bu higher test weight than Oxen but similar to Russ, when recorded directly from combine (Table 1a).
Heading: On the average, Walworth is one day earlier than Oxen and Russ (Table 1b).
Polyacrylamide Gel Electrophoresis (PAGE): Polyacrylamide Gel Electrophoresis revealed that Walworth differs from Oxen and Russ by at least three protein-bands (Photograph 1). Arrow (a) on the photograph points to a band that is present in Walworth but absent in Oxen and Russ, while arrow (b) points to a band that is present in Russ but absent in Walworth and Oxen. Arrow (c) indicates the band present in Walworth and Russ but absent in Oxen. PAGE was conducted by Dr. Brent Turnipseed, Seed Testing Lab, South Dakota State University.

Table 1. South Dakota State University, Spring Wheat Breeding Trials Combined over Locations and Years.

a. Yield and test weight (TW)

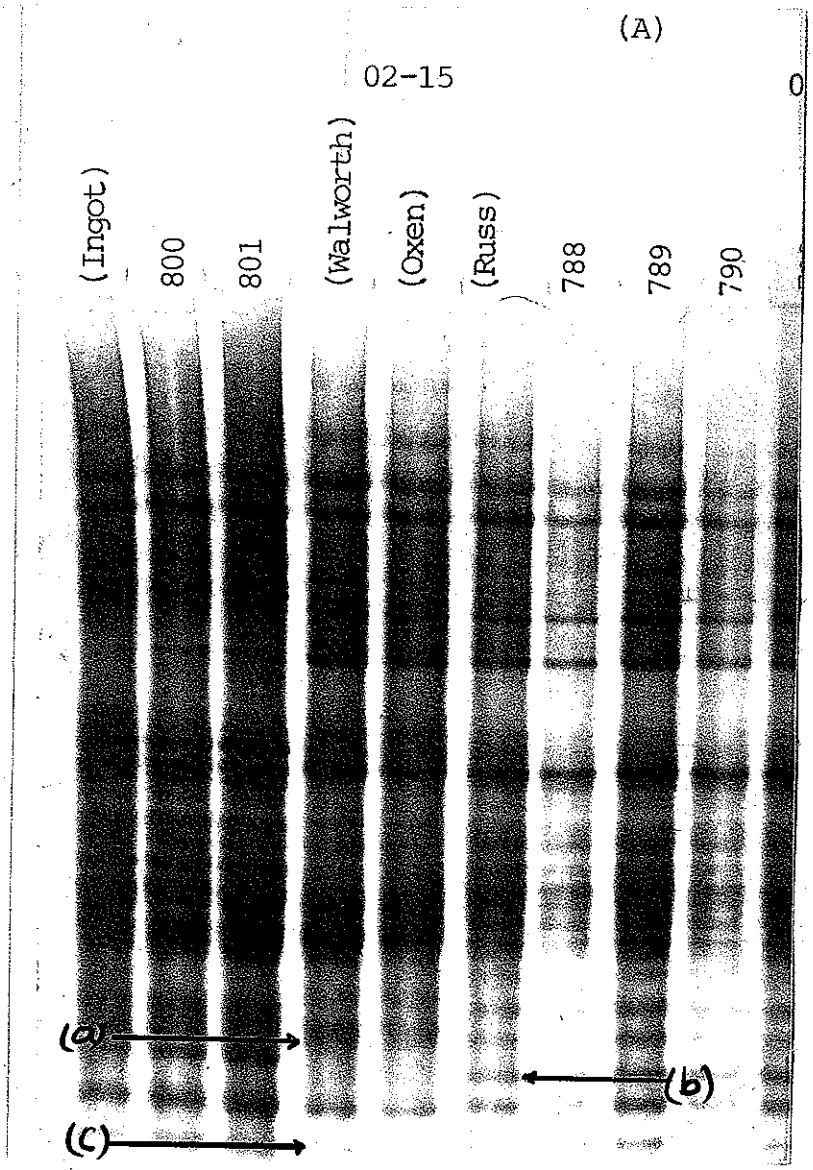
	Yield (bu/a)					TW (lb/bu)				
	1997 (5)	1998 (5)	1999 (5)	2000 (5)	97-00 (20)	1997 (4)	1998 (4)	1999 (4)	2000 (4)	97-00 (16)
Walworth	46.3	48.3	45.2	40.6	45.1	58.8	57.7	58.1	58.4	58.3
Oxen	44.4	45.6	39.9	41.7	42.9	57.8	56.8	55.7	57.4	56.9
Russ	47.2	46.5	42.6	40.7	44.3	59.5	56.6	57.3	57.9	57.9
CV%	5.3	5.8	9.6	7.0	7.0	0.3	3.2	1.7	1.6	2.0
LSD (5%)	1.7	1.8	2.7	1.9	1.0	0.1	1.5	0.8	0.8	0.5

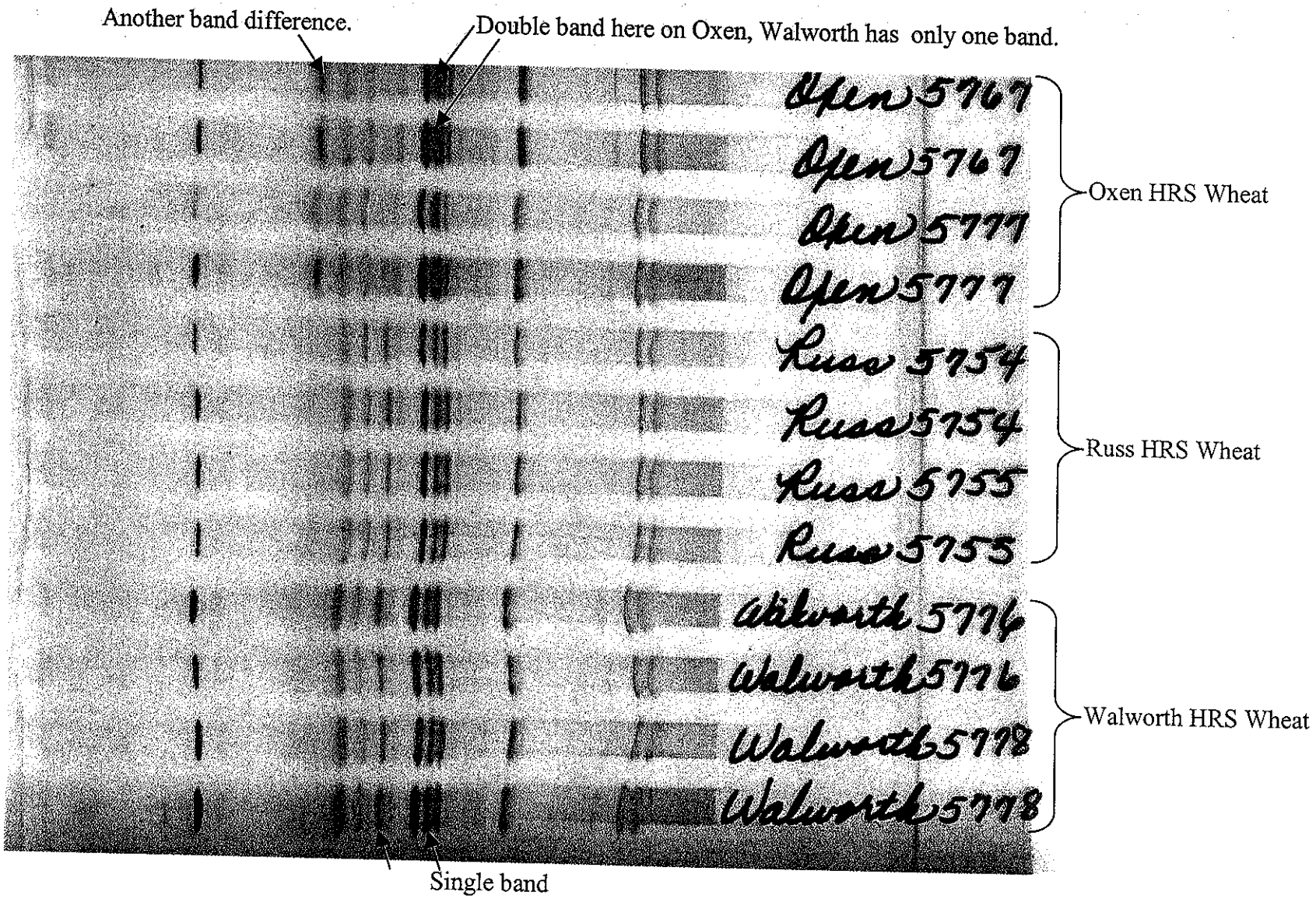
b. Heading and height

	Heading (days)					Height (cm)				
	1997 (4)	1998 (4)	1999 (4)	2000 (4)	97-00 (16)	1997 (4)	1998 (4)	1999 (4)	2000 (4)	97-00 (16)
Walworth	174.2	171.7	170.3	167.2	170.8	80.9	86.4	81.8	80.3	82.4
Oxen	174.3	171.9	171.0	168.3	171.4	78.3	83.3	78.8	79.2	79.9
Russ	175.3	172.6	171.2	168.8	172.0	79.7	87.0	84.2	84.7	83.9
CV%	0.3	0.3	0.4	0.6	0.4	2.2	3.3	2.0	4.0	3.0
LSD (5%)	0.4	0.4	0.5	0.8	0.3	1.5	2.3	1.4	2.7	1.0

N. B.: Figures in parentheses indicate the number of locations that data was collected.

Photograph 1. Acid Polyacrylamide Gel Electrophoresis (PAGE) of hard red spring wheat cultivars Walworth, Oxen, and Russ.





An Isoelectric Focusing Gel to compare Oxen and Walworth HRS. The gel was run and scanned by HyPure (PerkinElmer Life Sciences) for the SDSU Seed Testing Lab. Differences are marked with arrows. PH gradient of 5-8, Agarose gel with Coomassie blue stain. Supplied by SDSU Seed Testing Lab. April 2nd, 2002

200200108

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE DIVISION
BELTSVILLE, MARYLAND 20705

EXHIBIT C
(Wheat)

OBJECTIVE DESCRIPTION OF VARIETY
WHEAT (*Triticum* spp.)

NAME OF APPLICANT(S)
SOUTH DAKOTA AGRICULTURAL EXPERIMENT STATION

ADDRESS (*Street and No. or R.F.D. No., City, State, and Zip Code*)
South Dakota State University
Agricultural Hall 129
Brookings SD 57007

FOR OFFICIAL USE ONLY

PVPO NUMBER

VARIETY NAME
Walworth

TEMPORARY OR EXPERIMENTAL DESIGNATION
SD3348

PLEASE READ ALL INSTRUCTIONS CAREFULLY: Place the appropriate number that describes the varietal character of this variety in the boxes below. Place a zero in the first box (e.g. [ ][ ][ ] or [ ][ ]) when number is either 99 or less or 9 or less respectively. Data for quantitative plant characters should be based on a minimum of 100 plants. Comparative data should be determined from varieties entered in the same trial. Royal Horticultural Society or any recognized color standard may be used to determine plant colors; designate system used: _____

Please answer all questions for your variety; lack of response may delay progress of your application.

1. KIND:

[1] 1=Common 2=Durum 3=Club 4=Other (SPECIFY) _____

2. VERNALIZATION:

[1] 1=Spring 2=Winter 3=Other (SPECIFY) _____

3. COLEOPTILE ANTHOCYANIN:

[1] 1=Absent 2=Present

4. JUVENILE PLANT GROWTH:

[2] 1=Prostrate 2=Semi-erect 3=Erect

5. PLANT COLOR (boot stage):

[2] 1 = Yellow-Green 2 = Green 3 = Blue-Green

6. FLAG LEAF (boot stage):

[2] 1 = Erect 2 = Recurved [2] 1 = Not Twisted 2 = Twisted

7. EAR EMERGENCE:

[0][4] Number of Days Earlier Than Chris *
[0][2] Number of Days Later Than Forge *

8. ANTHER COLOR:

[1] 1 = YELLOW 2 = PURPLE

9. PLANT HEIGHT (from soil to top of head, excluding awns):

[ ][ ] cm Taller Than _____ *
[1][4] cm Shorter Than Chris *

7

10. STEM:

A. ANTHOCYANIN

[1] 1= Absent 2=Present

B. WAXY BLOOM

[2] 1=Absent 2=Present

C. HAIRINESS (last internode of rachis)

[2] 1=Absent 2=Present

D. INTERNODE (SPECIFY NUMBER) 4 (including peduncle)

[1] 1=Hollow 2=Semi-solid 3=Solid

E. PEDUNCLE

[2] 1=Absent 2=Present

[40] cm Length

11. HEAD (at Maturity):

A. DENSITY

[3] 1=Lax 2=Middense 3= Dense

B. SHAPE

[1] 1 = Tapering 2= Strap 3 = Clavate 4 = Other (SPECIFY) _____

C. CURVATURE

[2] 1 = Erect 2 = Inclined 3 = Recurved

D. AWNEDNESS

[4] 1 = Awnless 2 = Apically Awnletted 3 = Awnletted 4 = Awned

12. GLUMES (at Maturity):

A. COLOR

[1] 1 = White 2 = Tan 3 = Other (SPECIFY) _____

B. SHOULDER

[2] 1 = Wanting 2 = Oblique 3 = Rounded 4 = Square 5 = Elevated 6 = Apiculate

C. BEAK

[3] 1 = Obtuse 2 = Acute 3 =Acuminate

D. LENGTH

[2] 1 = Short (ca. 7mm) 2 = Medium (ca. 8mm) 3 = Long (ca. 9mm)

E. WIDTH

[2] 1 = Narrow (ca. 3mm) 2 = Medium (ca. 3.5mm) 3 = Wide (ca. 4mm)

13. SEED:

A. SHAPE

[1] 1 = Ovate 2 = Oval 3 = Elliptical

B. CHEEK

[2] 1=Rounded 2=Angular

C. BRUSH

[2] 1=Short 2=Medium 3=Long

[1] 1 = Not Collared 2 = Collared

D. CREASE

[2] 1 = Width 60% or less of Kernel
2 = Width 80% or less of Kernel
3 = Width Nearly as Wide as Kernel

[2] 1 = Depth 20% or less of Kernel
2 = Depth 35% or less of Kernel
3 = Depth 50% or less of Kernel

13. SEED: (continued)

E. COLOR

[3] 1 = White 2 = Amber 3 = Red 4 = Other (SPECIFY) _____

F. TEXTURE

[1] 1=Hard 2=Soft

G. PHENOL REACTION *(see instructions)*:

[ ] 1 = Ivory 2 = Fawn 3 = Light Brown 4 = Dark Brown 5 = Black

14. DISEASE: (0=Not Tested; 1=Susceptible; 2=Resistant; 3=Intermediate; 4=Tolerant)

PLEASE INDICATE THE SPECIFIC RACE OR STRAIN TESTED

Stem Rust *(Puccinia graminis* f. sp. *tritici)*
[2] ~~field and seedling reaction~~

Stripe Rust *(Puccinia striiformis)*
[0] _____

Tan Spot *(Pyrenophora tritici-repentis)*
[0] _____

Halo Spot *(Selenophoma donacis)*
[0] _____

Septoria nodorum (Glume Blotch)
[0] _____

Septoria avenae (Speckled Leaf Disease)
[0] _____

Septoria tritici (Speckled Leaf Blotch)
[0] _____

Scab (*Fusarium* spp.)
[3] _____

"Black Point" (Kernel Smudge)
[0] _____

Barley Yellow Dwarf Virus (BYDV)
[0] _____

Soilborne Mosaic Virus (SBMV)
[0] _____

Wheat Yellow (Spindle Streak) Mosaic Virus
[0] _____

Wheat Streak Mosaic Virus (WSMV)
[0] _____

Other (SPECIFY) _____
[ ] _____

Other (SPECIFY) _____
[ ] _____

Other (SPECIFY) _____
[ ] _____

Leaf Rust *(Puccinia recondita* f. sp. *tritici)*
[3] ~~field reaction~~

Loose Smut *(Ustilago tritici)*
[0] _____

Flag Smut *(Urocystis agropyri)*
[0] _____

Common Bunt *(Tilletia tritici* or *T. laevis)*
[0] _____

Dwarf Bunt *(Tilletia controversa)*
[0] _____

Karnal Bunt *(Tilletia indica)*
[0] _____

Powdery Mildew *(Erysiphe graminis* f. sp. *tritici)*
[0] _____

"Snow Molds"
[0] _____

Common Root Rot *(Fusarium, Cochliobolus* and *Bipolaris* spp.)
[0] _____

Rhizoctonia Root Rot *(Rhizoctonia solani)*
[0] _____

Black Chaff *(Xanthomonas campestris* pv. *translucens)*
[0] _____

Bacterial Leaf Blight *(Pseudomonas syringae* pv. *syringae)*
[0] _____

Other (SPECIFY) _____
[ ] _____

Other (SPECIFY) _____
[ ] _____

Other (SPECIFY) _____
[ ] _____

Other (SPECIFY) _____
[ ] _____

15. INSECT: (0=Not Tested; 1=Susceptible; 2=Resistant; 3=Intermediate; 4=Tolerant)

PLEASE SPECIFY BIOTYPE (where needed)

Hessian Fly *(Mayetiola destructor)* [0] _____

Other (SPECIFY) [ ] _____

Stem Sawfly *(Cephus* spp.) [0] _____

Other (SPECIFY) [ ] _____

Cereal Leaf Beetle *(Oulema melanopa)* [0] _____

Other (SPECIFY) [ ] _____

Russian Aphid *(Diuraphis noxia)* [0] _____

Other (SPECIFY) [ ] _____

Greenbug *(Schizaphis graminum)* [0] _____

Other (SPECIFY) [ ] _____

Aphids [0] _____

Other (SPECIFY) [ ] _____

16. ADDITIONAL INFORMATION ON ANY ITEM ABOVE, OR GENERAL COMMENTS:

EXHIBIT D.
Walworth (SD3348)
Additional Description of the Variety

The following additional descriptive information is presented:

- Release notice of Walworth
- Table 2. South Dakota performance data.
- Table 3. Uniform Regional Spring Wheat performance data.
- Table 4. 2000 Wheat Quality Council data.

South Dakota State University
SDSU

200200108

College of Agriculture and Biological Sciences

Agricultural Experiment Station

Office of the Director

Box 2207, Ag Hall 129
SDSU
Brookings, SD 57007-0291
Phone 605-688-4149
FAX 605-688-6065

DATE: July 10, 2001

TO: Agricultural Experiment Station Directors
North Central Region and Great Plains

FROM: Kevin D. Kephart, Director
Agricultural Experiment Station

SUBJECT: Release of Cultivars

The South Dakota Agricultural Experiment Station announces the release of the following cultivars:

1) **SDR20 Sunflower Fertility Restorer Line**
2) **SD3348 Hard Red Spring Wheat** - Proposed name 'Walworth'; PVP recommended.

The release date is March 1, 2001.

The South Dakota Agricultural Experiment Station also announces the following increases with intent to release:

SD92-1233T & Hendricks RR variety Soybean (intended for release in 2002)
SD96-702 Soybean (intended for release in 2002)
SD3367 Hard Red Spring Wheat (intended for release in 2002)
SD97525 Oat (intended for release in 2002)
SD97839 Oat (intended for release in 2002)

Enclosed are descriptions of the new releases. Complete yield and agronomic data are available on request from the Plant Science Department.

Seed is available through the Foundation Seed Stocks Division, Department of Plant Science, South Dakota State University, Brookings, SD 57007 (605-688-5418) FAX (605-688-6633) E-mail: jack_ingemansen@sdstate.edu

ph

Enclosures

cc: Cultivar Release/Variety Recommendation Committee
Plant Breeders

Release of 'Walworth' Hard Red Spring Wheat

Walworth was developed by the South Dakota Agricultural Experiment Station and tested under the experimental designation of SD3348. It is an early, semidwarf hard red spring wheat from the cross Shield/Butte 86//Oxen. The name Walworth was selected to recognize support for the SDSU spring wheat breeding program by the Walworth County Crop Improvement Association with special tribute to Donald Giese. Giese has been a cooperator with the spring wheat project for over 30 years. It is anticipated that Walworth will be submitted for cultivar protection under the United States Plant Variety Protection Act with the certification option.

The most significant features of Walworth are high grain yield, rapid grain fill, good bread-making characteristics, and an intermediate level of scab resistance. It has been in South Dakota yield trials since 1997, in regional trials 1998-2000, and in the Wheat Quality Council trial in 2000. In comparison to 'Oxen', Walworth is 2 bushels per acre higher in grain yield, 1 day early heading, 1 inch taller, 1 pound per bushel higher in test weight, and has the same grain protein content. Walworth appears to have a rapid grain fill and usually reaches maturity earlier than the heading date would indicate. The straw strength is less than that of Oxen, similar to 'Russ'. Walworth threshes easily (similar to Oxen).

Walworth is resistant to the prevalent races of stem rust and moderately resistant to the prevalent races of leaf rust. Walworth is intermediate in scab resistance, similar to 'Ingot', but less than 'Alsen'.

The protein content of Walworth is equal to Russ and Oxen. The dough from Walworth has strong mixing and good baking properties similar to that from Oxen. The Wheat Quality Council data indicated that Walworth was equal to or greater than 'Grandin' for all characteristics except bake absorption, for which it was lower than Grandin.

Table 2. South Dakota performance data, 2000

Entry	Name	Yield (bu/a)										TW	Heading	Height	Scab
		BRK	GRO	WAT	RED	HIG	SEL	WR	DAY	AUR	Average	(lb/bu)	(days)	(cm)	%
33	SD3576	49.6	54.5	42.0	46.8	24.3	56.1	32.2	48.1	48.9	44.7	59.3	167.0	78.2	56.0
10	SD3367	46.9	59.7	48.3	49.8	21.3	49.9	29.4	46.9	50.0	44.7	59.0	166.2	78.4	44.7
34	SD3586	44.2	53.3	41.6	53.8	22.1	54.4	27.4	42.0	45.7	42.7	59.3	167.0	77.8	42.3
20	SD3540	47.6	51.9	40.9	45.8	22.3	44.9	35.5	41.9	50.0	42.3	58.2	167.0	78.9	39.3
12	SD3506	44.9	52.2	45.1	53.3	18.2	54.6	22.9	38.3	50.0	42.2	60.8	169.0	87.2	43.7
5	OXEN	46.4	45.8	41.1	46.9	20.4	56.8	27.5	47.1	45.2	41.9	57.8	167.7	77.5	50.7
24	SD3546	41.7	48.3	45.1	45.2	19.6	53.0	39.0	38.5	46.3	41.8	59.4	167.3	84.7	32.3
13	SD3522	45.9	50.4	43.5	47.9	17.4	50.8	30.3	40.5	45.2	41.3	58.3	166.8	83.2	35.0
4	RUSS	46.8	44.2	42.9	48.0	20.8	49.1	34.9	35.2	49.5	41.3	57.6	168.3	83.2	43.3
22	SD3543	44.6	47.8	40.1	51.6	22.0	46.3	37.0	35.3	46.3	41.2	58.2	167.7	84.9	33.3
35	SD3587	45.5	50.7	42.2	50.0	23.1	46.9	25.7	41.8	44.6	41.2	58.4	167.9	79.7	44.7
18	SD3480	43.3	45.0	41.3	47.4	17.4	51.8	31.8	44.0	44.6	40.7	57.9	168.6	85.9	41.7
17	SD3478	43.5	46.9	42.8	47.6	19.5	53.6	32.6	34.7	43.6	40.5	58.9	168.5	92.9	37.0
19	SD3533	46.1	49.0	42.4	43.8	18.5	49.4	32.9	36.8	45.2	40.5	59.2	166.3	84.5	40.0
9	SD3348	46.5	49.9	39.3	45.4	19.5	48.4	26.7	39.7	47.9	40.4	58.3	166.8	80.0	35.0
6	FORGE	44.2	51.3	39.2	51.4	20.5	41.9	30.3	40.1	43.0	40.2	56.7	165.5	80.9	43.0
11	SD3496	47.4	52.4	41.9	50.1	15.8	42.0	26.6	37.4	46.8	40.0	58.0	166.0	80.5	32.0
36	SD3596	37.9	45.1	43.4	46.5	21.9	51.3	28.3	35.6	47.9	39.8	58.4	170.9	89.3	44.7
7	INGOT	44.9	43.0	43.4	47.2	20.8	47.7	28.8	37.4	42.5	39.5	60.1	165.8	86.5	33.3
31	SD3570	40.1	49.3	47.2	47.2	15.9	54.1	23.6	29.4	47.3	39.4	58.5	170.0	93.2	56.0
15	SD3475	46.5	48.1	42.6	48.6	15.4	41.3	28.1	32.8	50.6	39.3	59.2	167.4	86.2	46.0
26	SD3553	40.0	48.4	41.3	45.9	21.2	47.9	26.0	39.2	43.6	39.3	58.1	167.0	89.2	47.0
30	SD3569	43.9	44.6	42.9	42.3	18.6	48.4	28.8	35.9	46.8	39.1	59.4	167.7	93.9	48.0
2	BUTTE 86	44.0	43.0	41.2	45.1	20.3	44.0	25.4	38.6	48.4	38.9	57.5	167.7	83.2	41.0
14	SD3411	43.2	50.3	37.9	45.5	21.0	45.9	29.4	32.0	44.6	38.9	56.1	167.2	77.7	39.7
28	SD3561	40.5	48.9	42.8	49.4	18.2	46.1	29.4	30.7	43.6	38.8	57.9	167.2	81.4	49.3
29	SD3562	42.2	46.3	39.7	44.6	24.4	46.2	30.9	28.3	46.8	38.8	59.5	167.7	78.9	40.7
23	SD3544	43.1	41.0	41.4	46.6	15.4	46.6	32.3	34.9	43.6	38.3	58.5	170.1	82.8	38.3
32	SD3574	42.9	45.6	41.5	38.7	19.1	52.5	26.0	32.7	45.2	38.2	55.5	167.3	82.2	55.7
21	SD3541	41.3	43.4	41.0	44.9	17.3	48.5	27.9	37.7	41.4	38.2	58.6	168.7	88.8	36.0
27	SD3557	39.6	51.0	36.0	42.9	17.1	44.3	25.6	40.2	43.0	37.7	56.3	165.6	78.7	34.0
8	EMBER	41.3	51.9	36.1	42.2	21.7	47.1	30.5	25.2	42.5	37.6	56.6	167.9	79.0	45.3
25	SD3549	38.0	42.1	41.0	41.3	16.8	47.6	33.8	31.2	44.6	37.4	57.7	169.5	80.4	41.0
16	SD3518	40.7	47.7	38.7	43.4	15.2	45.8	27.3	30.8	41.4	36.8	58.5	169.7	80.4	37.0
3	2375	39.2	38.6	37.5	37.6	19.0	41.3	28.0	23.4	39.3	33.8	58.2	168.5	77.4	36.7
1	CHRIS	31.1	22.9	27.1	29.4	12.9	33.3	24.1	13.0	26.4	24.4	55.3	171.3	96.8	40.3
	Average	43.21	47.35	41.18	45.95	19.30	48.04	29.35	36.04	45.05	39.50	58.20	167.80	83.46	41.78
	CV %	5.8	8.4	6.3	8.7	16.3	7.7	23.8	13.8	7.1	8.3				
	LSD (.05)	4.1	5.6	4.2	6.5	6.4	6	9.3	8.1	5.2	2.2				

BRK=Brookings GRO=Groton WAT=Watertown RED=Redfield HIG=Highmore

SEL=Selby WR=West river DAY=Day county AUR=Aurora

Table 3. ALL LOCATION MEANS FOR UNIFORM REGIONAL HRSW NURSERY 2000

SORTED BY YIELD, DESCENDING

VARIETY OR STATE NO.	YIELD BU/AC	TWT LB/BU	HD DAYS	HT CM	LD	STEMRUST*	LEAFRUST*	DS* Shattering*
NO. LOCS:	17	16	14	17	7	1	1	1	1
SD3348	60.8	59.5	22	90	2.8		5MR	33	02
N96-0144	60.6	59.8	25	83	1.9		TR	28	TR
SD3367	60.6	60.5	22	87	1.9		TR	28	04
MN97803	58.9	59.7	23	85	1.9		TMR	33	01
MN97448	58.2	60.7	24	83	2.1		10MS	28	00
SD3496	58.1	60.2	21	90	1.9		5MR	30	01
ND726	58.1	62.0	22	97	3.0		TMS	25	TR
N97-0090	58.0	59.9	25	78	1.1		5MR	28	TR
VERDE	57.9	58.9	26	84	1.5		10MS	23	TR
N96-2444	57.8	60.3	24	98	1.7	TS	10MS	28	00
ND729	57.8	61.2	24	102	2.3		TR	28	01
SD3522	57.6	60.0	22	93	2.2	5S	TMR	33	05
FA998-743	57.3	60.9	24	91	2.6		10MS	25	23
MN95229	57.1	60.9	23	82	1.6		10MS	30	TR
SD3506	57.1	61.3	24	95	2.1		TR	25	00
98S0191-60	56.6	59.3	25	94	2.5		TR	35	00
98T379	56.4	58.8	29	89	1.8		10MS	38	00
ND721	56.1	60.8	24	94	1.9		5R	30	01
ND709-9	56.0	60.5	24	91	1.3		TR	40	01
KEENE	55.8	60.1	25	104	2.2		TR	28	TR
BW259	55.2	59.4	24	96	2.3		20S	45	01
SLW97606	55.1	61.4	26	84	0.6	TS	20S	30	00
N99-0010	55.0	60.1	23	79	2.3		10MS	43	00
98T311	54.8	58.6	27	90	1.6		20S	25	00
2375	54.1	60.0	24	88	3.1		40S	55	01
MN97073	53.8	59.8	23	78	1.2		5MR	38	TR
WA007839	53.6	58.4	23	81	2.2		30S	38	00
ND724	53.5	59.3	25	98	2.5		TMR	20	TR
WA7859	52.5	57.8	24	96	2.5		20S	40	00
98S0191-22	51.7	59.3	23	90	1.6		TR	33	00
ID0560	51.3	55.2	27	84	1.4		40S	68	00
BW270	50.8	60.0	25	100	3.0		TMR	40	00
CHRIS	43.1	58.2	26	105	5.2		30S	48	TR
MARQUIS	38.5	57.7	27	109	4.3	5MS-S	50S	80	TR
MEANS:	55.3	59.7	24	91	2.2				

TESTS	YIELD	TWT	HD	HT	LD
F-test:	11.5	15.6	34.3	77.2	5.8
LSD:	3.7	0.9	0.8	2.5	1.0
CV:	9.9	2.2	4.5	4.2	43.9

* Stemrust=St. Paul; Leafrust=Minot; DS and Shattering=Prosper

(a) Summary of Kernel Characteristics

The overall quality of wheat harvested at Brookings (B), Casselton (C), and Crookston (K) was generally sound as evidenced by average test weight of 61.7 lb/bu (+/- 1.6) and falling number of 393 sec (+/- 30). Wheat harvested at Minot (M) had an average test weight of 55.0 lb/bu (+/- 3.1) and falling number of 190 sec (+/- 96). Four of the six samples harvested at Minot were discarded because of low falling number as a result of sprout damage. Kernel and flour characteristics are summarized as follows:

			Kernel Size		SKCS			Grnd Wheat	Wheat		Falling	NIR	Vit
Entry ID	Entry	TW lb/bu	Lg %	Hard Index	Moist %	Size mm	Weight mg	Moist %	Pro 14% mb	Ash mb	Number sec	Hard ness	Kernel %
B-1	GRANDIN	61.3	78	74.5	11.1	2.66	32.8	9.8	15.6	1.70	382	88.9	90.5
B-4	BR3677	59.7	68	62.8	11.1	2.52	32.8	9.3	14.7	1.64	421	66.5	89.1
B-5	COI955W	61.0	68	62.2	11.1	2.57	33.2	9.4	13.3	1.55	274	63.7	6.8
B-6	SD3348	63.0	80	65.7	12.6	2.61	33.6	9.4	14.4	1.54	416	78.8	84.6
B-7	SD3367	63.0	88	63.7	10.6	2.75	35.3	9.3	15.1	1.65	422	92.2	85.1
B-8	GRANDIN	61.8	83	71.3	10.4	2.66	33.1	9.2	15.1	1.57	416	89.6	93.1
C-1	GRANDIN	62.0	74	72.5	11.3	2.45	29.0	10.1	12.7	1.71	387	90.3	74.5
C-3	ND722	63.1	61	79.3	11.6	2.49	28.8	10.1	14.3	1.87	410	104.8	91.6
C-4	BR3677	59.7	47	66.1	11.8	2.30	28.0	9.8	14.3	1.94	403	78.0	91.4
C-5	COI955W	61.5	47	73.5	11.0	2.29	28.2	9.5	12.7	1.72	425	72.9	9.2
C-6	SD3348	61.7	60	69.5	11.0	2.28	28.0	9.9	14.4	1.73	371	90.8	83.7
C-7	SD3367	63.3	84	62.0	10.7	2.67	32.8	9.8	14.4	1.69	401	94.8	89.5
C-8	GRANDIN	62.4	76	77.9	10.8	2.52	29.5	9.7	14.4	1.76	381	99.7	85.9
C-9	MN95002	64.6	59	67.2	10.6	2.35	29.0	9.7	14.1	1.77	408	79.6	92.0
C-11	FA-998-743	64.7	74	65.5	10.8	2.49	29.5	10.1	12.6	1.64	381	96.3	42.6
C-12	FA-997-703	63.6	61	72.6	10.9	2.51	31.6	10.4	13.2	1.84	418	93.9	89.9
K-1	GRANDIN	62.3	90	72.1	13.1	2.90	36.9	10.9	15.5	1.67	386	112.0	83.6
K-4	BR3677	58.0	73	50.7	14.6	2.61	33.9	11.3	15.4	1.86	370	71.3	41.2
K-6	SD3348	59.9	80	54.4	14.1	2.56	32.5	12.0	15.7	1.52	385	107.7	14.4
K-8	GRANDIN	60.7	94	62.3	13.7	2.90	37.4	11.6	16.1	1.68	399	111.7	19.6
K-9	MN95002	60.7	84	54.1	14.2	2.63	33.3	12.3	15.7	1.49	396	108.0	14.7
K-10	MN95229	61.7	88	61.9	13.8	2.78	35.4	11.6	15.3	1.58	395	113.2	11.7
K-11	FA-998-743	60.9	84	53.3	13.6	2.62	32.1	11.9	14.6	1.51	381	107.7	3.3
K-12	FA-997-703	60.6	75	63.9	13.7	2.67	35.3	11.6	15.4	1.71	416	106.4	39.9
K-13	N96-2444	61.4	88	57.7	13.6	2.67	34.2	11.6	15.6	1.72	392	103.6	4.3
M-1	GRANDIN*	53.6									141		
M-3	ND722*	59.2									191		
M-5	COI955W*	55.5									86		
M-6	SD3348	55.5	44	61.7	10.4	2.11	24.7	10.31	15.2	1.42	241	73.4	8.6
M-8	GRANDIN*	49.9									128		
M-13	N96-2444	56.2	59	57.8	10.3	2.17	26	9.58	14.8	1.48	352	72.6	17.9

- Samples were not further tested because of low falling number.

(b) **Summary of Flour Characteristics**

Entry ID	Entry	Flour Moist. %	Flour Protein 14% mb	Flour Ash 14% mb	Farinograph Characteristics: Water Absorption 14% mb	Arrival Time min	Peak Time min	Dough Stability min	MTI BU	Break Down min
B-1	GRANDIN	13.1	14.8	0.575	61.3	3.1	7.6	11.4	23	13.8
B-4	BR3677	13.1	14.3	0.549	59.7	3.3	9.3	16.6	11	20.0
B-5	COI955W	13.0	12.3	0.542	57.5	2.8	7.2	12.6	21	14.7
B-6	SD3348	12.9	13.4	0.475	57.6	2.6	8.6	16.0	22	16.4
B-7	SD3367	12.4	14.3	0.524	61.8	3.5	5.3	7.4	23	11.6
B-8	GRANDIN	12.6	14.3	0.559	61.8	2.5	6.0	10.8	23	12.0
C-1	GRANDIN	13.7	12.1	0.552	60.6	2.2	5.2	9.3	24	10.9
C-3	ND722	13.6	13.5	0.532	65.0	3.6	6.2	8.6	25	12.1
C-4	BR3677	13.2	13.7	0.588	60.1	3.9	8.6	13.8	17	18.0
C-5	COI955W	12.9	12.3	0.554	58.0	1.5	5.7	14.8	17	14.1
C-6	SD3348	13.0	13.4	0.481	58.9	2.3	7.4	12.8	21	13.5
C-7	SD3367	13.4	13.5	0.526	63.3	3.2	5.9	8.4	20	13.1
C-8	GRANDIN	13.2	13.6	0.555	62.8	3.1	6.9	9.4	26	12.6
C-9	MN95002	12.7	13.4	0.502	61.9	3.5	6.4	8.8	21	12.8
C-11	FA-998-743	13.3	11.8	0.508	60.1	2.8	5.3	7.3	31	10.1
C-12	FA-997-703	12.2	12.5	0.636	62.3	2.4	3.7	4.2	39	7.2
K-1	GRANDIN	13.4	14.6	0.600	64.6	3.4	7.1	8.6	32	11.8
K-4	BR3677	13.3	14.5	0.650	61.2	3.3	10.9	15.8	21	18.2
K-6	SD3348	13.8	14.6	0.510	60.0	3.0	8.6	17.0	10	20.0
K-8	GRANDIN	13.4	15.0	0.531	64.1	3.2	7.9	13.9	15	17.5
K-9	MN95002	12.8	14.8	0.503	64.6	5.6	8.6	9.1	16	15.5
K-10	MN95229	13.3	14.4	0.584	64.1	2.8	7.6	9.8	27	12.8
K-11	FA-998-743	12.8	13.7	0.559	61.9	2.7	8.6	10.3	30	13.0
K-12	FA-997-703	12.2	14.4	0.652	63.7	3.3	5.0	7.8	21	12.1
K-13	N96-2444	12.6	14.8	0.546	63.8	3.9	9.6	13.3	24	15.5
M-6	SD3348	13.7	14.1	0.466	58.5	2.4	7.4	17.3	10	18.0
M-13	N96-2444	13.7	14.1	0.476	59.1	3.5	8.2	13.5	21	13.8

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U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

EXHIBIT E
STATEMENT OF THE BASIS OF OWNERSHIP

Application is required in order to determine if a plant variety protection certificate is to be issued *(7 U.S.C. 2421)*. The information is held confidential until the certificate is issued *(7 U.S.C. 2426)*.

1. NAME OF APPLICANT(S)	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER	3. VARIETY NAME
SOUTH DAKOTA AGRICULTURAL EXPERIMENT STATION	SD3348	Walworth

4. ADDRESS *(Street and No., or R.F.D. No., City, State, and ZIP, and Country)*	5. TELEPHONE *(Include area code)*	6. FAX *(Include area code)*
South Dakota State University Ag Hall 129 Brookings SD 57007	(605) 688-4149	(605) 688-6065

7. PVPO NUMBER **200200108**

8. Does the applicant own all rights to the variety? Mark an "X" in the appropriate block. If no, please explain [X] YES [ ]

9. Is the applicant (individual or company) a U.S. National or a U.S. based company? If no, give name of country [X] YES [ ] NO

10. Is the applicant the original owner? [X] YES [ ] NO **If no, please answer one of the following:**

a. **If the original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. National(s)?**

[ ] YES [ ] NO **If no, give name of country**

b. **If the original rights to variety were owned by a company(ies), is (are) the original owner(s) a U.S. based company?**

[ ] YES [ ] NO **If no, give name of country**

11. Additional explanation on ownership *(If needed, use the reverse for extra space)*:

PLEASE NOTE:

Plant variety protection can only be afforded to the owners (not licensees) who meet the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed the final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definitions.